Ordering number:EN836G

N-Channel Junction Silicon FET

2SK222

Low-Frequency, Low Noise Amplifier Applications

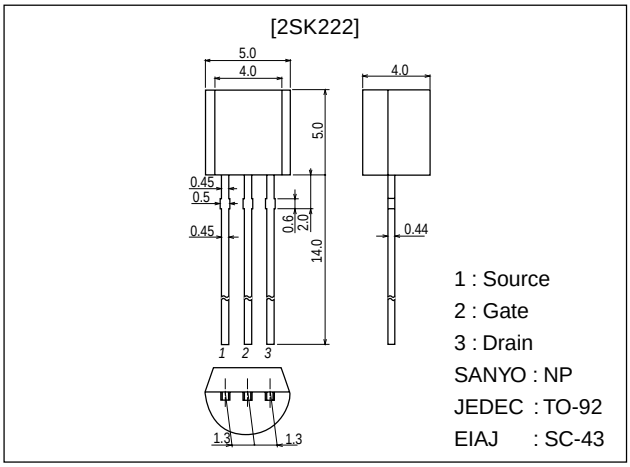
Features

- Ultralow noise figure.
- Large $|y_{fs}|$.
- Low gate leakage current.

Package Dimensions

unit:mm

2019B



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		40	V
Gate-to-Drain Voltage	V_{GDS}		–40	V
Gate Current	I_G		10	mA
Allowable Power Dissipation	P_D		300	mW
Junction Temperature	Tj		125	˚C
Storage Temperature	Tstg		–40 to +125	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=–100μA	–40			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=–20V			–1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}*	V_{DS}=10V, V_{GS}=0	0.6*		12.0*	mA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=10μA		0.5		V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, V_{GS}=0, f=1kHz		17		mS
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0, f=1MHz		14		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, V_{GS}=0, f=1MHz		3.5		pF
Noise Figure	NF1	V_{DS}=10V, V_{GS}=0, Rg=1kΩ, f=100Hz		1.0	3.0	dB
	NF2	V_{DS}=10V, V_{GS}=0, Rg=1kΩ, f=1kHz		0.6	1.5	dB
Equivqlent Input Noise Voltage	V_{NI}	V_{DS}=10V, V_{GS}=0, Rg=1kΩ, f=1kHz		2		nV/√Hz

* : The 2SK222 is classified by I_{DSS} as follows : (unit : mA).

0.6	C	1.5	1.2	D	3.0	2.5	E	6.0	5.0	F	12.0

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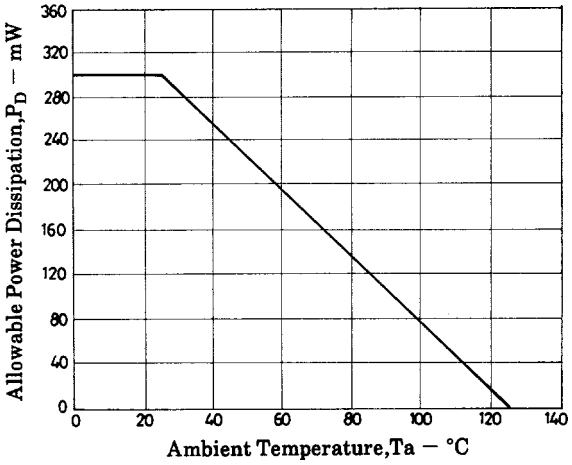
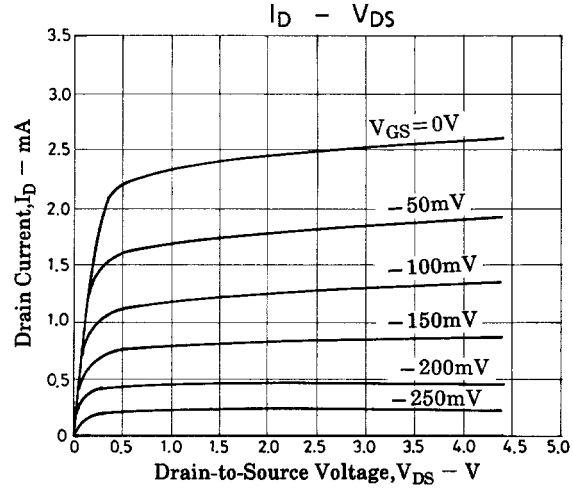
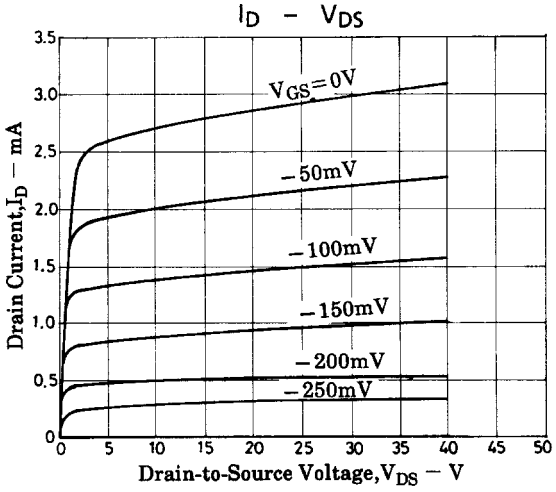
P_D – Ta



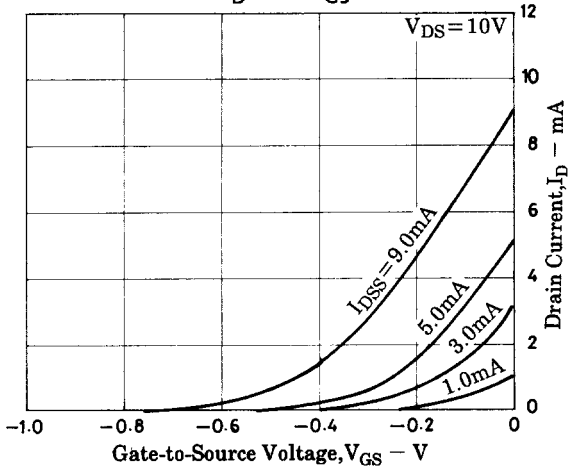
I_D – V_{DS}



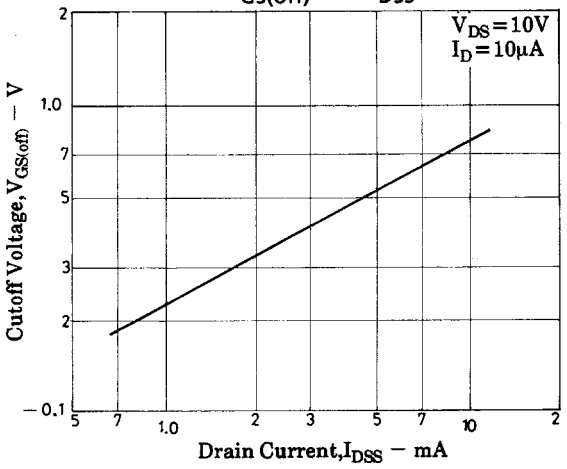
I_D – V_{DS}



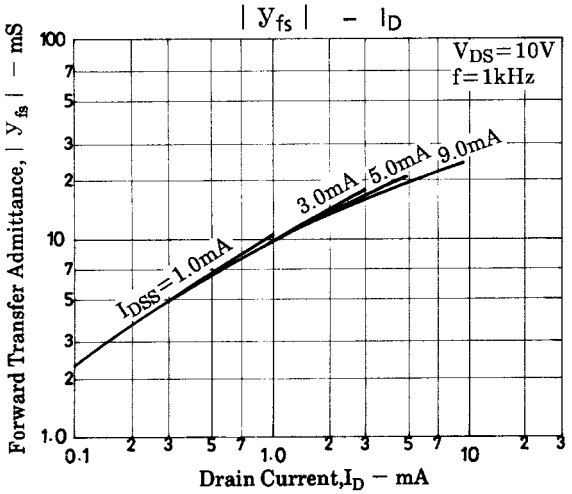
I_D – V_{GS}



$V_{GS(off)}$ – I_{DSS}



$|y_{fs}|$ – I_D



$|y_{fs}|$ – I_{DSS}